

**IN THE DRAWINGS**

The sheets of drawings attached as Appendix A include FIGS. 1-16. These sheets replace all previous drawings. No new matter is added by the replacement drawings.

### **REMARKS**

In the Office Action, claims 1-5, 9-12, and 16-18 were rejected and claims 6-8 and 13-15 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. By the present Response, claims 19-86 are canceled, claim 87 is added, and claims 6, 13, and 14 are amended. Specifically, claims 6, 13, and 14 are rewritten in independent form. Upon entry of the amendments, claims 1-18 and 87 will remain pending in the present patent application. No additional fee is required for the added independent claims in view of the independent claims presently canceled. Reconsideration and allowance of all pending claims are requested.

### **Drawings**

In the Office Action, the Examiner stated:

Applicant is required to furnish a formal drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Office Action, page 3.

It is not clear which formal drawing the Examiner is requesting. Accordingly, by this response, Applicants provide the replacement sheets 1-7, which are attached as Appendix A. Each of the sheets in Appendix A is labeled as "replacement sheet."

### **Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 1-5, 9-12, and 16-18 under 35 U.S.C. § 103(a) as obvious over Koshio (U.S. Patent No. 6,392,143) in view of Chappo et al. (U.S. Patent No. 6,510,195).

### ***Legal Precedent***

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). The mere fact that references *can* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d. 1430 (Fed. Cir. 1990). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (Bd. Pat. App. & Inter. 1985). The Examiner must provide *objective evidence*, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). Moreover, a statement that the proposed modification would have been “*well within the ordinary skill of the art*” based on individual knowledge of the claimed elements cannot be relied upon to establish a *prima facie* case of obviousness without some *objective reason to combine* the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993); *In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d. 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d. 1161 (Fed. Cir. 1999).

If the Examiner relies on a theory of inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *In re Robertson*, 169 F.3d 743, 49 U.S.P.Q.2d 1949 (Fed. Cir. 1999) (Emphasis Added). The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient.

*Id.* In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The Examiner, in presenting the inherency argument, bears the evidentiary burden and must adequately satisfy this burden. *See id.* Regarding functional limitations, the Examiner must evaluate and consider the functional limitation, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used. *See* M.P.E.P. § 2173.05(g); *In re Swinehart*, 169 U.S.P.Q. 226, 229 (C.C.P.A. 1971); *In re Schreiber*, 44 U.S.P.Q.2d 1429, 1432 (Fed. Cir. 1997). If the Examiner believes the functional limitation to be inherent in the cited reference, then the Examiner “must provide some evidence or scientific reasoning to establish the reasonableness of the examiner’s belief that the functional limitation is an inherent characteristic of the prior art.” *Ex parte Skinner*, 2 U.S.P.Q.2d 1788, 1789 (Bd. Pat. App. & Inter. 1986).

When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. Moreover, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified,

then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959); see M.P.E.P. § 2143.01.

***Features of Independent Claim 1 and Claims Depending Therefrom Missing from the Cited References***

Applicants respectfully assert that, whether considered separately or hypothetically together, the cited references fail to disclose each and every element of independent claim 1. For instance, independent claim 1 recites, *inter alia*, “coupling a plurality of detector tiles to the flexible panel *in the curved shape*; and *inversely bending the flexible panel to a desired shape to close gaps between the detector tiles*.” (Emphasis added).

In the Office Action, the Examiner admitted that the Koshio reference “does not teach a step of coupling a plurality of detector tiles to the flexible panel in the curved shape.” Office Action, page 3. The Examiner attempted to remedy the deficiencies of the Koshio reference by citing the Chappo reference. Specifically, the Examiner asserted that “Chappo et al teach the coupling a plurality of detector tiles 1001 to the flexible panel 1003 in the curved shape (see Fig. 2C).” Office Action, page 3. Further, the Examiner stated that “[i]t is also inherent to inverse bending of the flexible panel in order to obtain a desired shape as to provide a close gaps between the detector tiles.” *Id.*

Applicants respectfully assert that the Chappo reference fails to remedy the admitted deficiencies of the Koshio reference. Indeed, FIG. 2C of the Chappo reference, which was cited by the Examiner, merely illustrates multiple computerized tomographic (CT) detector modules arranged in an arc on a mechanical support to form a complete CT imaging system. *See* Chappo et al., col. 7 line 60 – col. 8 line 18. Specifically, element 1003 of FIG. 2C, which the Examiner alleged to be a flexible panel, is actually an “aluminum or steel metal structure 1003” that provides mechanical support. Chappo et al., col. 8, lines 15-18. Applicants stress that the aluminum or steel metal structure 1003 is

apparently intended to *remain rigid* to facilitate provision of the mechanical support. Accordingly, the aluminum or steel metal structure 1003 is not a “*flexible panel*,” as recited in independent claim 1. (Emphasis added). Therefore, the Chappo reference clearly does not disclose coupling a plurality of detector tiles to a *flexible panel* in a curved shape.

Further, the Chappo reference certainly does not disclose “*inversely bending the flexible panel to a desired shape to close gaps between the detector tiles*,” as recited in independent claim 1. (Emphasis added). The Examiner merely alleges that these features are inherent without providing a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows. Indeed, Applicants stress that there is no indication whatsoever in the Chappo reference of inversely bending the aluminum or steel metal structure 1003, much less inversely bending the aluminum or steel metal structure to close gaps between detector tiles coupled to the structure 1003 in a curved shape. In fact, it appears that the detector modules 1001 of the Chappo reference are installed directly adjacent one another, without gaps in between. *See* Chappo et al., FIG. 2C. Accordingly, Applicants respectfully assert that the Examiner has not adequately satisfied the evidentiary burden. The Examiner is again reminded that extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.

#### ***No Motivation or Suggestion to Combine the Cited References***

Applicants respectfully assert that the Examiner has not shown the requisite motivation or suggestion to modify or combine the Koshio and Chappo references to reach the presently claimed technique. Applicants remind the Examiner that the Examiner must provide *objective evidence*, rather than subjective belief and unknown authority, of the requisite motivation or suggestion to combine or modify the cited references. *In re Lee*, 61 U.S.P.Q.2d. 1430 (Fed. Cir. 2002). In the present rejection, the Examiner does

not appear to provide any motivation whatsoever for the attempted combination of the Koshio and Chappo references. Accordingly, Applicants challenge the Examiner to produce *objective evidence* of the requisite motivation or suggestion to combine the cited references.

***Proposed Modification Changes Principle of Operation***

The Examiner's proposed modification of the Koshio reference would render the alleged invention disclosed therein unsatisfactory for its intended purpose. Accordingly, there is no suggestion or motivation to make the proposed modification. Further, the proposed combination of the Koshio and Chappo references would change the principle of operation of the alleged invention of the Koshio reference. Accordingly, the teachings of the cited references are not sufficient to render the claims *prima facie* obvious.

Turning to the cited references, Koshio specifically teaches a *flexible package* "constructed by a flexible substrate 11, a silicon chip 14 mounted on the flexible substrate 11, on the principal surface of the flexible substrate 11 a plurality of radially-extending aluminum (Al) wirings 12a, ..., 12j, ... are arranged." Koshio, col. 9, lines 7-13. This construction is illustrated in FIG. 5A of the Koshio reference. FIG. 6A of the Koshio reference, which was cited by the Examiner, merely illustrates a comparative example against the module shown in FIG. 5A, wherein the example is different because a thick silicon chip is employed. *See id.* at col. 10, lines 1-6. As illustrated by FIGS. 5B and 5C, the Koshio reference clearly discloses *deflection* of the flexible module shown in FIG. 5A, which is caused by temperature change. *See id.* at col. 9, lines 43-46.

In contrast, the Chappo reference explicitly teaches an "*aluminum or steel* metal structure 1003 provides *mechanical support* for the detector modules 1001 and common electronics board 1004." Chappo et al., col. 8, lines 15-17. Applicants stress that the metal structure 1003 is rigid, not flexible, to provide the mechanical support required while arranging the modules 1001 in an arc. *See id.* The attempted combination of the

rigid metal structure 1003 of the Chappo reference with the flexible substrate of the Koshio reference would render the alleged invention of the Koshio reference inoperable because it would not *deflect* based on the temperature changes (e.g., -55 and 125 degrees Celsius). *See id.* at col. 9, lines 46-67. For these reasons, it would be improper to combine the cited references.

In view of the remarks set forth above, Applicants respectfully submit that none of the cited references alone or in combination disclose or suggest the elements set forth in independent claim 1, much less provide any suggestion to combine the disparate teachings to render the claimed subject matter obvious. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of independent claim 1. Further, applicants request withdrawal and allowance of those claims dependent on claim 1 based on their respective dependencies and based on unique matter recited in each dependent claim.

#### **Allowable Subject Matter**

As noted above, the Examiner indicated claims 6-8 and 13-15 as allowable if rewritten in independent form. Claims 7 and 8 depend from claim 6 and claim 15 depends from claim 14. Therefore, the Applicants rewrote claims 6, 13, and 14 in independent form to expedite allowance of these claims.

#### **New Claim**

As set forth above, the Applicants added new independent claim 87. For the reasons discussed in detail above and other claim features, the Applicants believe claim 87 is patentable over the cited references and in condition for allowance. For example, the references cited by the Examiner fail to teach or suggest “coupling a plurality of detector tiles to the flexible panel at predetermined spaced intervals while the flexible membrane is being flexed in the curved shape.” Therefore, the Applicants request that the Examiner allow the new independent claim 87.

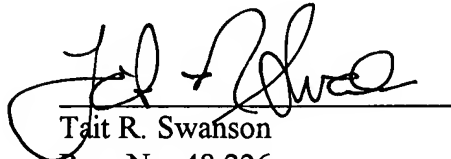


**Conclusion**

In view of the remarks and amendments set forth above, Applicants respectfully request allowance of the pending claims. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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